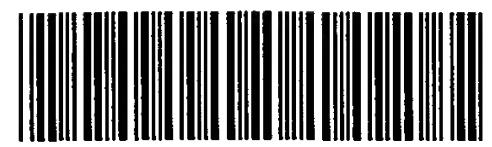


OS 90
0106

3



OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/963,693

DATE: 01/14/2003
TIME: 12:01:10

Input Set : N:\Crf3\RULE60\09963693.raw
Output Set: N:\CRF4\01142003\I963693.raw

```

1 <110> APPLICANT: Ruvkun, Gary
2 Ogg, Scott
3 <120> TITLE OF INVENTION: THERAPEUTIC AND DIAGNOSTIC TOOLS FOR
4 IMPAIRED GLUCOSE TOLERANCE CONDITIONS
5 <130> FILE REFERENCE: 00786/351004
6 <140> CURRENT APPLICATION NUMBER: 09/963,693
7 <141> CURRENT FILING DATE: 2001-09-25
9 <150> PRIOR APPLICATION NUMBER: US/09/205,658
10 <151> PRIOR FILING DATE: 1998-12-03
12 <150> PRIOR APPLICATION NUMBER: 08/857,076
13 <151> PRIOR FILING DATE: 1997-05-15
14 <150> PRIOR APPLICATION NUMBER: 08/888,534
15 <151> PRIOR FILING DATE: 1997-07-07
16 <150> PRIOR APPLICATION NUMBER: US98/10080
17 <151> PRIOR FILING DATE: 1998-05-15
18 <160> NUMBER OF SEQ ID NOS: 328
19 <170> SOFTWARE: FastSEQ for Windows Version 4.0
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 20
23 <212> TYPE: DNA
24 <213> ORGANISM: Artificial Sequence
25 <220> FEATURE:
26 <223> OTHER INFORMATION: Primer/probe derived from C. elegans
27 <400> SEQUENCE: 1
28 cgctacggca aaaaagtgaa
29 <210> SEQ ID NO: 2
30 <211> LENGTH: 18
31 <212> TYPE: DNA
32 <213> ORGANISM: Artificial Sequence
33 <220> FEATURE:
34 <223> OTHER INFORMATION: Primer/probe derived from C. elegans
35 <400> SEQUENCE: 2
36 cgatgatgaa gatacccc
37 <210> SEQ ID NO: 3
38 <211> LENGTH: 20
39 <212> TYPE: DNA
40 <213> ORGANISM: Artificial Sequence
41 <220> FEATURE:
42 <223> OTHER INFORMATION: Primer/probe derived from C. elegans
43 <400> SEQUENCE: 3
44 tgatgcgaac ggcgatcgat
45 <210> SEQ ID NO: 4
46 <211> LENGTH: 20

```

ENTERED

20

18

20

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/963,693

DATE: 01/14/2003
 TIME: 12:01:10

Input Set : N:\Crf3\RULE60\09963693.raw
 Output Set: N:\CRF4\01142003\I963693.raw

```

50 <212> TYPE: DNA
51 <213> ORGANISM: Artificial Sequence
52 <220> FEATURE:
53 <223> OTHER INFORMATION: Primer/probe derived from C. elegans
54 <400> SEQUENCE: 4
55     acgctggatc atctacatt20
56 <210> SEQ ID NO: 5
58 <211> LENGTH: 22
59 <212> TYPE: DNA
60 <213> ORGANISM: Artificial Sequence
61 <220> FEATURE:
62 <223> OTHER INFORMATION: Primer/probe derived from C. elegans
63 <400> SEQUENCE: 5
64     ggtttaatta cccaaatgg ag22
66 <210> SEQ ID NO: 6
67 <211> LENGTH: 20
68 <212> TYPE: DNA
69 <213> ORGANISM: Artificial Sequence
70 <220> FEATURE:
71 <223> OTHER INFORMATION: Primer/probe derived from C. elegans
72 <400> SEQUENCE: 6
73     gctcacgggt cacacaacga20
75 <210> SEQ ID NO: 7
76 <211> LENGTH: 20
77 <212> TYPE: DNA
78 <213> ORGANISM: Artificial Sequence
79 <220> FEATURE:
80 <223> OTHER INFORMATION: Primer/probe derived from C. elegans
81 <400> SEQUENCE: 7
82     ttagtcgtttt ggcgtatcgat20
84 <210> SEQ ID NO: 8
85 <211> LENGTH: 21
86 <212> TYPE: DNA
87 <213> ORGANISM: Artificial Sequence
88 <220> FEATURE:
89 <223> OTHER INFORMATION: Primer/probe derived from C. elegans
90 <400> SEQUENCE: 8
91     tgagggccaa ctaaagaaga c21
93 <210> SEQ ID NO: 9
94 <211> LENGTH: 20
95 <212> TYPE: DNA
96 <213> ORGANISM: Artificial Sequence
97 <220> FEATURE:
98 <223> OTHER INFORMATION: Primer/probe derived from C. elegans
99 <400> SEQUENCE: 9
100    cgctacggca aaaaagtgaa20
102 <210> SEQ ID NO: 10
103 <211> LENGTH: 20
104 <212> TYPE: DNA

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/963,693

DATE: 01/14/2003
TIME: 12:01:10

Input Set : N:\CrF3\RULE60\09963693.raw
Output Set: N:\CRF4\01142003\I963693.raw

105 <213> ORGANISM: Artificial Sequence
 106 <220> FEATURE:
 107 <223> OTHER INFORMATION: Primer/probe derived from C. elegans
 108 <400> SEQUENCE: 10 20
 109 gacgatcccc aggtgagtt
 111 <210> SEQ ID NO: 11
 112 <211> LENGTH: 5816
 113 <212> TYPE: DNA
 114 <213> ORGANISM: Caenorhabditis elegans
 115 <220> FEATURE:
 116 <221> NAME/KEY: misc_feature
 117 <222> LOCATION: (1)...(5816)
 118 <223> OTHER INFORMATION: n = A,T,C or G
 119 <400> SEQUENCE: 11
 120 ggtttaatta cccaaaggtt agctccaaga gcacacatct gatcgctcgga ttctactgt 60
 121 ctccccgaaa aaccaacaaa aaacacaagt ttttgaacac ttgttaaatgc agacagaacg 120
 122 atgacgagaa tgaatattgt cagatgtcgg agacgacaca aaattttgga aaattttggaa 180
 123 gaagagaatc tcggcccgag ctgctcgtc acgacttcaa caaccgctgc caccgaagct 240
 124 ctcggaacaa ccactgagga tatgaggctt aagcagcagc gaagctcgac gcgtgccacg 300
 125 gagcacgata ttgtcgacgg caatcaccac gacgacgagc acatcacaat gagacggctt 360
 126 cgacttgtca aaaattcgcg gacgcggcgt agaacgacgc ccgattcaag tatggactgc 420
 127 tatgagggaaa acccgccatc aaaaaactt caataaatta ttcttgatt tctaaaaagt 480
 128 catcaatgac gtcattaaatg cttttactgc tattcgctt tgtacagccg tgtgcctcaa 540
 129 tagtcgaaaa acgatgcggc ccaatcgata ttgcggaaatag gccgtggat attaagccgc 600
 130 aatggtcgaa acttgggtgat ccgaacgaaa aagatttggc tggtcagaga atggtcaact 660
 131 gcacagtgg ggaagggtcg ctgacaatct catttgtact gaaacacaag aaaaaagcac 720
 132 aagaagaaat gcatcgaagt ctacagccaa gatattccca agacgaattt atcactttc 780
 133 cgcacatctacg tgaaattact ggaactctgc tcgttttga gactgaagga ttagtggatt 840
 134 tgcgtaaaaat ttcccaaat ctgcgtgaa ttggaggccg ttgcgtgatt caacactatg 900
 135 cgctgataat ttatcgaaat ccggatttgg agatcggtct tgacaagctt tccgtattc 960
 136 gaaatggtgg tgtacggata atcgataatc gaaaactgtg ctacacgaaa acgattgatt 1020
 137 ggaaacattt gatcacttct tccatcaacg atgttgcgt tgataatgct gccgagtacg 1080
 138 ctgtcactga gactggattt atgtgcccac gtggagctt cgaagaggat aaaggcgaat 1140
 139 caaagtgtca ttattttgg gaaaagaatc aggaacaagg tgcgtttatga tcgttttctt ccaacgaaag 1200
 140 gttggtcgaa caccacttgc caaaagtctt gtgcattatgc tcgttttctt ccaacgaaag 1260
 141 aaatcgacc gggatgtgat gcaacggcg atcgatgtca cgtcaatgc gtggcgggtt 1320
 142 gtgagcgtgt gaatgtatgc acagcatgcc acgcgtgcaaa gaatgtctat cacaaggaa 1380
 143 agtgtatcga aaagtgtgat gtcacactgt accttctcct tcaacgtcgat tgtgtgaccc 1440
 144 gtgagcgtgt tctgcagctg aatccggcgc tctcgaacaa aacagtgcct atcaaggcga 1500
 145 cggcaggcct ttgcgtggat aaatgtcccg atggttatca aatcaacccg gatgatcatc 1560
 146 gagaatgccg aaaatgcgtt ggcaagtgtg agattgtgtg cgagatcaat cacgtcattt 1620
 147 atacgtttcc gaaggcacag gcgatcaggc tatgcaatat tattgacgga aatctgacga 1680
 148 tcgagattcg cggaaaacag gattcggaa tggcgccga gttgaaggat atatttgcga 1740
 149 acattcacac gatcaccggc tacctgttgg tacgtcaatc gtcaccgtt atctcggttga 1800
 150 acatgttccg gaatttacga cgtattgagg caaagtcaat gttcagaaat ctatatgcta 1860
 151 tcacagtttt tgaaaatccg aattaaaaaa agtattcga ttcaacgcac gatttgcgc 1920
 152 ttgatcggtt aactgtgtca attgccaata acaagatgtt atgcttcaag tatatcaagc 1980
 153 agctaatgtc aaagttaaat ataccactcg atccgataga tcaatcagaa gggacaaatg 2040
 w--> 154 gtgagaaggn aatctgtgag gatatggcaa tcaacgtgag catcacagcg gtcaacgcgg 2100

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/963,693

DATE: 01/14/2003

TIME: 12:01:10

Input Set : N:\Crf3\RULE60\09963693.raw
Output Set: N:\CRF4\01142003\I963693.raw

155 actcggtctt ctttagttgg ccctcattca acattaccga tatagatcag cgaaagttc 2160
156 tcggctacga gctcttcttc aaagaagtcc cacgaatcga tgagaacatg acgatcgaag 2220
157 aggatcgaag tgcgtgtgtc gattcgtggc agagtgtctt caaacagtag tacgagacgt 2280
158 cgaacggta accgaccccg gacatttttga tggatattgg accgcgcgag cgaattcggc 2340
159 cgaatacgct ctacgcgtac tatgtggcga cgcatgtgt gttgcattgcc ggtgcgaaga 2400
160 acggtgtatc gaagatttgtt tttgtgagga cgactacta tacgcctgtat cctccgacgt 2460
161 tggcactagc gcaagtcgtat tcggacgcta ttcatattac gtggaaagcg ccgctccaac 2520
162 cgaacggaga cctcacgcat tacacaatta tgtggcgtga gaatgaagtg agcccgtacg 2580
163 aggaagccga aaagtttgtt acagatgcaa gcacccccgc aaatcgacaa cgcacgaaag 2640
164 atccgaaaaga gacgattgtat gccgataaggc cagtcgatat tccgtcatca cgtaccgttag 2700
165 ctccgacact tttgactatg atgggtcactg aagatcagca gaaaacgtgc gctgcaacgc 2760
166 ccgggttggc ttcgtgttcg gctatcgaag aatcatcgga acagaacaag aagaagcgac 2820
167 cggatccgat gtcggcgatc gaatcatctg catttgagaa taagctgttg gatgagggtt 2880
168 taatgccgag agacacgatg cgagtggagac gatcaattga agacgcaat cgagtcaatg 2940
169 aagagttgga aaaagctgaa aatttggaa aagctccaaa aactctcggt ggaaagaagc 3000
170 cgctgatcca tatttcgaag aagaagccgt cgagcagcag caccacatcc acaccggctc 3060
171 caacgatcgc atcaatgtat gccttaacaa gaaaccgcac tacgggtccg ggaacaagga 3120
172 ttcggctcta cgagatctac gaacctttac ccggaaagctg ggcgattaat gtatcagctc 3180
173 tggcattggaa taatagttat gtgatacgaa atttgaagca ttacacactt tatgcgattt 3240
174 ctctatccgc gtgccaaaac atgacagttac ccggagcattc ttgctcaata tcccatcggt 3300
175 cgggagcatt gaaacgaaca aaacacatca cagacattga taaagtgttg aatgaaacaa 3360
176 ttgaatggag atttatgaat aatagtcaac aagtcaacgt gacgtggat ccaccgactg 3420
177 aagtgaatgg tggaaatattc gtttatgttg taaagcttaa gtcaaaagtc gatggatcaa 3480
178 ttgttatgac gagatgtgtc ggtgcgaaga gaggatattc aacacggaaat caggggttcc 3540
179 tattccagaa tttggccgat ggacgttatt ttgtctcagt aacggcgacc tctgtacacg 3600
180 gcgcgtggacc ggaagccgaa tcctccgacc caatcgtcgt catgacgcca ggcttcttca 3660
181 ctgtggaaat cattctcgcc atgcttctcg tcttttgcatt ttaatgtca attgcccgtt 3720
182 gtataatcta ctactacatt caagtacgt acggaaaaaa agtggaaagct ctatctgact 3780
183 ttatgcaatt gaatcccgaa tattgtgtgg acaataagta caatgcagac gattggagc 3840
184 tacggcagga ttagtggatgtc ctcggacaac agtggagaa gggatcattc ggaaaagtgt 3900
185 accttaggaac tggaaataat gttgtttctc tgatgggtga tcggttcggc ccgtgtgtca 3960
186 ttaagattaa ttagatgtat ccagcgtcga ctgagaatct caactatctc atgaaagcta 4020
187 atattatgaa gaactttaag actaacttta tcgtccaaact gtacggagtt atctctactg 4080
188 tacaaccagc gatgggtgtg atggaaatga tggatcttgg aaatctccgt gactatctcc 4140
189 gatcgaaacg cgaagacgaa gtgttcaatg agacggactg caacttttc gacataatcc 4200
190 cgaggatata attccatgag tggggccgac agattgtga tggatggcg tacctggagt 4260
191 cgctcaagtt ttgccatcga gatctcgcc cacgtatttgcatgataaat cggatgaga 4320
192 ctgtcaagat tggagatttc ggaatggctc gtatgttattt ctatcatgac tattataagc 4380
193 catcgggcaa gcgtatgtg cctgttcgtat ggatgtcacc cgagtgtttg aaagacggaa 4440
194 agtttgactc gaaatctgtat gtttggagct tcggagttgt tctctatgaa atggttacac 4500
195 tcgggtctca gccatatatt ggtttggatgtat gatgtgaggat gttgaattat attggaatgg 4560
196 cccggaaaggat tatcaagaag cccgaatgtt gtggaaacta ttggatataag gtatgaaaa 4620
197 tggcgtggag atactcacct cgggatcgatc cgacgttcct ccagctcgat catcttctag 4680
198 cagctgaagc ttcaccagaa ttccgagatt tattcatttgcattt cctaaccgt aatcaaata 4740
199 tccttgacga ttcagaagca ctggatcttgc atgatattga tgatactgtat atgaaatgtc 4800
200 aggttgcgtat ggtggcaccgc gatgttggatgtat gatgtgaggat tcagagttgtat tcggaaacgtc 4860
201 ggaatacgaa ttcaataccgc ttgaaacagt ttaagacgtat ccctccgatc aatgcgacga 4920
202 cgagtcattc gacaatatcg attgatgaga caccgtgaa agcgaagcag cgagaaggat 4980
203 cgctggatgtat gggatcgatc ttgtatgtatc atagtgaggat tccgagttgtat gcggaaagttc 5040

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/963,693

DATE: 01/14/2003
TIME: 12:01:10

Input Set : N:\CrF3\RULE60\09963693.raw
Output Set: N:\CRF4\01142003\I963693.raw

204	ggacgtatgc	tggtgatgga	gattatgtgg	agagagatgt	tcgagagaat	gatgtccaa	5100									
205	cgcgacgaaa	tactggtgca	tcaacatcaa	gttacacagg	tggtggtcca	tattgcctaa	5160									
206	caaatcgtag	tggttcaaata	gaacgaggag	ccggttcgg	tgaagcagta	cgattaactg	5220									
207	atggtgttgg	aagtggacat	ttaaatgatg	atgattatgt	tgaaaaagag	atatcatcca	5280									
208	tggatacgcg	ccggagcacg	ggcgcctcga	gctcttccta	cggtgttcca	cagacgaatt	5340									
209	ggagtggaaa	tcgtggtgcc	acgtattata	cgagtaaagc	tcaacaggca	gcaactgcag	5400									
210	cagcagcagc	agcagcagct	ctccaacacg	aacaaaatgg	tggtcgaggc	gatcgattaa	5460									
211	ctcaactacc	cggaactgga	catttacaat	cgacacgtgg	tggacaagat	ggagattata	5520									
212	ttgaaactga	accgaaaaat	tatagaaata	atggatctcc	atcgcgaaac	ggcaacagcc	5580									
213	gtgacatttt	caacggacgt	tcggcttcg	gtgaaaatga	gcatctaata	gaggataatg	5640									
214	agcatcatcc	acttgtctga	aacccccaaa	aaatcccggc	tcttaaatta	taaatttatct	5700									
215	cccacattat	catatctcta	cacgaatatac	ggatttttt	tcagattttt	tctgaaaaat	5760									
216	tctgaataat	tttacccat	tttcaaatac	tctgtatttt	ttttgttat	tacccc	5816									
218	<210>	SEQ ID NO:	12													
219	<211>	LENGTH:	1724													
220	<212>	TYPE:	PRT													
221	<213>	ORGANISM:	Caenorhabditis elegans													
222	<400>	SEQUENCE:	12													
223	Met	Thr	Ser	Leu	Met	Leu	Leu	Leu	Phe	Ala	Phe	Val	Gln	Pro	Cys	
224	1				5				10					15		
225	Ala	Ser	Ile	Val	Glu	Lys	Arg	Cys	Gly	Pro	Ile	Asp	Ile	Arg	Asn	Arg
226					20				25					30		
227	Pro	Trp	Asp	Ile	Lys	Pro	Gln	Trp	Ser	Lys	Leu	Gly	Asp	Pro	Asn	Glu
228					35				40					45		
229	Lys	Asp	Leu	Ala	Gly	Gln	Arg	Met	Val	Asn	Cys	Thr	Val	Val	Glu	Gly
230					50				55					60		
231	Ser	Leu	Thr	Ile	Ser	Phe	Val	Leu	Lys	His	Lys	Thr	Lys	Ala	Gln	Glu
232					65				70					75		80
233	Glu	Met	His	Arg	Ser	Leu	Gln	Pro	Arg	Tyr	Ser	Gln	Asp	Glu	Phe	Ile
234					85				90					95		
235	Thr	Phe	Pro	His	Leu	Arg	Glu	Ile	Thr	Gly	Thr	Leu	Leu	Val	Phe	Glu
236					100				105					110		
237	Thr	Glu	Gly	Leu	Val	Asp	Leu	Arg	Lys	Ile	Phe	Pro	Asn	Leu	Arg	Val
238					115				120					125		
239	Ile	Gly	Gly	Arg	Ser	Leu	Ile	Gln	His	Tyr	Ala	Leu	Ile	Ile	Tyr	Arg
240					130				135					140		
241	Asn	Pro	Asp	Leu	Glu	Ile	Gly	Leu	Asp	Lys	Leu	Ser	Val	Ile	Arg	Asn
242					145				150					155		160
243	Gly	Gly	Val	Arg	Ile	Ile	Asp	Asn	Arg	Lys	Leu	Cys	Tyr	Thr	Lys	Thr
244					165				170					175		
245	Ile	Asp	Trp	Lys	His	Leu	Ile	Thr	Ser	Ser	Ile	Asn	Asp	Val	Val	Val
246					180				185					190		
247	Asp	Asn	Ala	Ala	Glu	Tyr	Ala	Val	Thr	Glu	Thr	Gly	Leu	Met	Cys	Pro
248					195				200					205		
249	Arg	Gly	Ala	Cys	Glu	Glu	Asp	Lys	Gly	Glu	Ser	Lys	Cys	His	Tyr	Leu
250					210				215					220		
251	Glu	Glu	Lys	Asn	Gln	Glu	Gln	Gly	Val	Glu	Arg	Val	Gln	Ser	Cys	Trp
252					225				230					235		240
253	Ser	Asn	Thr	Thr	Cys	Gln	Lys	Ser	Cys	Ala	Tyr	Asp	Arg	Leu	Leu	Pro

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/963,693

DATE: 01/14/2003
TIME: 12:01:12

Input Set : N:\Crf3\RULE60\09963693.raw
Output Set: N:\CRF4\01142003\I963693.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:11; N Pos. 2050
Seq#:31; N Pos. 3,12,15,18,21
Seq#:32; N Pos. 7,8,9,12,15
Seq#:115; Xaa Pos. 4,5,11,12,16,37,38,39,41,42,43,47
Seq#:126; Xaa Pos. 20,21,22
Seq#:127; Xaa Pos. 20,21,22
Seq#:128; Xaa Pos. 20,21,22
Seq#:129; Xaa Pos. 20,21,22
Seq#:130; Xaa Pos. 20,21,22
Seq#:131; Xaa Pos. 20,21,22
Seq#:132; Xaa Pos. 20,21,22
Seq#:133; Xaa Pos. 20,21,22
Seq#:134; Xaa Pos. 20,21,22
Seq#:135; Xaa Pos. 20,21,22
Seq#:136; Xaa Pos. 20,21,22
Seq#:137; Xaa Pos. 20,21,22
Seq#:138; Xaa Pos. 20,21,22
Seq#:139; Xaa Pos. 20,21,22
Seq#:140; Xaa Pos. 20,21,22
Seq#:141; Xaa Pos. 20,21,22
Seq#:142; Xaa Pos. 20,21,22
Seq#:143; Xaa Pos. 20,21,22
Seq#:144; Xaa Pos. 20,21,22
Seq#:145; Xaa Pos. 20,21,22
Seq#:146; Xaa Pos. 20,21,22
Seq#:147; Xaa Pos. 20,21,22
Seq#:148; Xaa Pos. 20,21,22
Seq#:149; Xaa Pos. 20,21,22
Seq#:150; Xaa Pos. 20,21,22
Seq#:151; Xaa Pos. 20,21,22
Seq#:152; Xaa Pos. 20,21,22
Seq#:153; Xaa Pos. 20,21,22
Seq#:238; Xaa Pos. 84,85,86,87,88,89,90,91,92,93,94,95,96
Seq#:304; Xaa Pos. 4,5
Seq#:323; Xaa Pos. 2,3,5,6

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/963,693

DATE: 01/14/2003

TIME: 12:01:12

Input Set : N:\Crf3\RULE60\09963693.raw
Output Set: N:\CRF4\01142003\I963693.raw

L:154 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:2040
L:745 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0
L:758 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0
L:3186 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:115 after pos.:0
L:3190 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:115 after pos.:32
L:3396 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:126 after pos.:16
L:3412 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:127 after pos.:16
L:3428 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:128 after pos.:16
L:3444 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:129 after pos.:16
L:3460 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:130 after pos.:16
L:3476 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:131 after pos.:16
L:3492 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:132 after pos.:16
L:3508 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:133 after pos.:16
L:3524 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:134 after pos.:16
L:3540 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:135 after pos.:16
L:3556 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:136 after pos.:16
L:3572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:137 after pos.:16
L:3588 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:138 after pos.:16
L:3604 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:139 after pos.:16
L:3620 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:140 after pos.:16
L:3636 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:141 after pos.:16
L:3652 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:142 after pos.:16
L:3668 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:143 after pos.:16
L:3684 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:144 after pos.:16
L:3700 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:145 after pos.:16
L:3716 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:146 after pos.:16
L:3732 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:147 after pos.:16
L:3748 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:148 after pos.:16
L:3764 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:149 after pos.:16
L:3780 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:150 after pos.:16
L:3796 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:151 after pos.:16
L:3812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:152 after pos.:16
L:3828 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:153 after pos.:16
L:5602 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:238 after pos.:80
L:6423 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:304 after pos.:0
L:6942 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:323 after pos.:0